

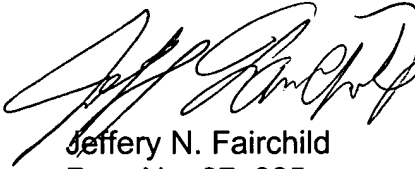
20 (Once amended) In a latent heat battery including a salt case, an outer
2 jacket surrounding said salt case in spaced relation thereto to define an insulating space
4 between the salt case and the outer jacket, inlet and outlet conduits extending from the
6 exterior of the outer jacket to the interior of the salt case, at least one tube within the salt
8 case and having a plurality of straight parallel runs defining a matrix with an exterior, and
a phase change material sealed within said at least one tube, the improvement wherein
the runs are laid out in an equilateral polygonal pattern with each run inwardly of said
matrix exterior abutting a plurality of adjacent runs and each run at the exterior of said
matrix additionally engaging said salt case, said runs having a cross-sectional shape such
10 that flow spaces exist between said runs, said flow spaces being in fluid communication
with said inlet and outlet conduits.

REMARKS

Claims 1, 7, 8, 11-14, 16, and 18-20 have been amended to correct typographical errors therein by replacing the phrase "salt jacket" with the phrase "salt case", which has antecedent basis in the claims. Further, claim 1 has been amended to delete the erroneously included phrase "from the exterior of the outer jacket", which phrase is inconsistent with dependent claim 12.

In view of the foregoing, Applicants respectfully request consideration of all the claims as amended and allowance of the case.

Respectfully submitted,



Jeffery N. Fairchild
Reg. No. 37, 825

January 21, 2003

WOOD, PHILLIPS, KATZ,
CLARK & MORTIMER
500 West Madison Street
Suite 3800
Chicago, Illinois 60661-2511
(312) 876-1800

MARKED UP VERSION OF CLAIMS

CLAIMS

We claim:

1. (Once amended) In a latent heat storage device including a salt case,
2. inlet and outlet conduits extending [from the exterior of the outer jacket] to the interior of
the salt case, at least one tube within the salt case and having a plurality of straight parallel
4 runs defining a matrix with an exterior, and a phase change material sealed within said at
least one tube, the improvement wherein the runs are laid out in an equilateral polygonal
6 pattern with each run inwardly of said matrix exterior abutting a plurality of adjacent runs
and each run at the exterior of said matrix additionally engaging said salt [jacket] case, said
8 runs having a cross-sectional shape such that flow spaces exist between said runs, said
flow spaces being in fluid communication with said inlet and outlet conduits.

7. (Once amended) The latent heat storage device of claim 6 wherein
2 said runs are circular in cross-section, each of said runs having six contact points with
other runs or said salt [jacket] case.

8. (Once amended) The latent heat storage device of claim 7 wherein
2 said salt [jacket] case includes a plurality of parallel, elongated, inwardly directed spaced
ribs, said runs having spaced centers, the spacing between said ribs being the same as
4 the spacing between said centers, the runs on said matrix exterior being nested between
two adjacent ribs and each having one of said contact points with each of said two adjacent
6 ribs.

11. (Once amended) The latent heat storage device of claim 1 wherein
2 said flow spaces also exist between the tubes on the exterior of said matrix and said salt
[jacket] case.

12. (Once amended) The latent heat storage device of claim 1 further
2 including an outer jacket surrounding said salt case in spaced relation to define an
insulating space between said salt jacket and said outer [jacket] case, said inlet and outlet
4 conduits extending from the exterior of the outer jacket to the interior of the salt case.

13. (Once amended) In a latent heat storage device including a salt case,
2 inlet and outlet conduits extending to the interior of the salt case, at least one tube within
the salt case and having a plurality of straight parallel runs defining a matrix with an
4 exterior, and a phase change material sealed within said at least one tube, the
improvement wherein the runs are in an equilateral polygonal pattern with each run

6 inwardly of said matrix exterior abutting a plurality of adjacent runs and each run at the
exterior of said matrix additionally engaging said salt [jacket] case, said runs having a
8 cross-sectional shape such flow spaces exist between said runs, said flow spaces being
in fluid communication with said inlet and outlet conduits, said salt [jacket] case including
10 a plurality of parallel, inwardly directed, spaced, elongated ribs on centers spaced a
distance equal to the spacing between the centers of said runs, said runs on the exterior
12 of said matrix being nested between corresponding ones of said ribs and engaging said
ribs along their respective lengths.

14. (Once amended) The latent heat storage device of claim 13 wherein
2 said runs are defined by individual tubes of circular cross-section, and said equilateral
polygonal pattern is a regular, hexagonal pattern, each tube having six contact points with
4 other adjacent tubes or with said salt [jacket] case on and between said ribs.

16. (Once amended) The latent heat storage device of claim 13 including
2 an outer jacket surrounding said salt [jacket] case in spaced relation to define an insulating
space and said salt [jacket] case is spaced from said outer jacket by a plurality of
4 standoffs.

18. (Once amended) The latent heat storage device of claim 17 wherein
2 said salt [jacket] case comprises two channel shaped elements surrounding and contacting

said matrix, and sealed to one another, and end plates or caps at each end of said matrix
4 and sealed to said channel shaped elements, said end plates or caps being provided with
strengthening ribs.

19. (Once amended) The latent heat storage device of claim 13 wherein
2 said salt [jacket] case comprises two channel shaped elements surrounding and contacting
said matrix, and sealed to one another, and end plates or caps at each end of said matrix
4 and sealed to said channel shaped elements, said end plates or caps being provided with
strengthening ribs.

20. (Once amended) In a latent heat battery including a salt case, an
2 outer jacket surrounding said salt case in spaced relation thereto to define an insulating
space between the salt case and the outer jacket, inlet and outlet conduits extending from
4 the exterior of the outer jacket to the interior of the salt case, at least one tube within the
salt case and having a plurality of straight parallel runs defining a matrix with an exterior,
6 and a phase change material sealed within said at least one tube, the improvement
wherein the runs are laid out in an equilateral polygonal pattern with each run inwardly of
8 said matrix exterior abutting a plurality of adjacent runs and each run at the exterior of said
matrix additionally engaging said salt [jacket] case, said runs having a cross-sectional
10 shape such that flow spaces exist between said runs, said flow spaces being in fluid
communication with said inlet and outlet conduits.